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The comparison of sensation seeking and five big factors of personality between internet dependents and non-dependents

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Abstract

The purpose of this study was to compare sensation seeking and five big factors of personality between internet dependent and non-dependent users. Hence, sample of 179 undergraduate students (109 female and 70 male) were selected from University of Tehran using cluster sampling and based on upper and lower limits, 29 students from each group were investigated. IAT, SSS-V and NEO-PI-R were used as instruments. According to the findings, sensation seeking of internet dependents was significantly ($P<0.001$) different from non-dependents. Internet dependents showed significantly higher scores on subscales of thrill and adventure seeking ($P<0.05$), disinhibition and boredom susceptibility ($P<0.001$) compared with non-dependents.

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1. Introduction

Nowadays with amazing technological advancements, use of Internet is turned into part of everyday life and gives rise to different psychological and sociological effects on people. Term of "Internet addiction disorder" was used for the first time by Goldberg (1996) as a pathological and obsessive use of the Internet that consist of factors such as tolerance and withdrawal symptoms as criteria for diagnosing the disorder (Lim, Bae, and Kim, 2004).

Before 1997, number of computer users was very small and this technology was used only in military or large financial centers but nowadays the computer and Internet users increase day by day (young, 1998). Iran with 33 million and 200 thousand users in June 2010 has been ranked as the first in the Middle East users' population (52/5 percent) by Internet World Stats Web site. The same report showed that the number of Iranian users have had more than 13180 percent growth compare with December 2000 with 250 thousand users.

Considering the increasing use of Internet in Iran, especially among youth and university students that are the largest group of Internet users and according to the reality that Iran is among the youngest countries in the world,

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comparison of internet dependants and non-dependents to identify various factors that make individuals susceptible to internet addiction disorder seems necessary.

Internet Dependence can occur due to Internal and external factors. From effective Interpersonal factors, Sensation seeking and personality of person could be noted. Recognition of these factors can significantly help us to identify susceptible individuals and prevent such disorder, especially among young people and students who are the pioneers of the future.

Lack of adequate information in the field of sensation seeking and personality and inconsistencies of previous studies motivated us to compare sensation seeking (Thrill and adventure seeking, Experience seeking, Disinhibition, Boredom susceptibility) and five big factors of personality (Neuroticism, Extraversion, Openness to experience, Agreeableness, Conscientiousness) between internet dependent and non-dependent users.

2. Method

2.1. Participants

Statistical Population of the present study was all undergraduate students of University of Tehran in 2008. According to the population, sample of 179 undergraduate students (109 female and 70 male) were selected from various faculties of University of Tehran (98 human science students, 41 technical students, 17 basic science students, and 23 art students) using cluster sampling. Based on upper and lower extremes, comparison of sensation seeking sub scales and five big factors of personality were done between 29 students from dependant group and 29 students from non-dependent group.

2.2. Research Instruments

The following three instruments were used to gather the results.

2.2.1. Internet Addiction Test (IAT, Young, 1998)

Young's Internet addiction test (1998) with 20 items was translated into Persian and respondents answered to all items on a six degree Likert style scale. Alpha Cronbach coefficient for Reliability of this questionnaire in overall sample (179 people) was 0.95.

2.2.2. Sensation Seeking Scale form V (SSS-V, Zuckerman, 1978)

A 40-item SSS-V questionnaire with four subscales (thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility) and a total score was used. Reliability and validity of SSS-V were reported in several articles (Zuckerman, 1979, 1994, 2007). In this study, questionnaire was translated to Persian and modified in some items to be more consistent with the Iranian Culture. Alpha Cronbach coefficients for the reliability of this modified scale for total score and four sub-scales were 0.99, 0.98, 0.97, 0.97, and 0.96, respectively.

2.2.3. Revised version of Neuroticism Extroversion Openness Personality Inventory (NEO-PI-R, Costa and McCrae, 1992)

A 60-item NEO-PI-R with five degree Likert style scale (from totally disagree to totally agree) was applied to evaluate five big factors of personality (Neuroticism, Extraversion, Openness to experience, Agreeableness, Conscientiousness). The reliability of 0.63 to 0.83 in three-year intervals and 0.68 to 0.83 in six-year intervals were reported (Costa and McCrae, 1988). This inventory in Iran has been normalized by Hagh Shenasi (1999) on 502 subjects with no psychiatric history. Alpha Cronbach coefficients of five big factors of personality in sixth and seventh months intervals for internal consistency were 0.81, 0.71, 0.57, 0.71 0.83 and for test-retest stability were 0.53, 0.74, 0.76, 0.60, 0.64 respectively.

3. Results

109 female (60.9 percent) and 70 male students (39.1 percent) have been investigated in this study. The mean of IAT score was 23.60 with 1.27 as standard error and 17.02 as standard deviation. Z for internet scores was calculated and the group around the mean (between \pm SD) was excluded from this study. Scores higher than +SD, i.e. upper extreme, was assigned as dependent group and scores lower than - SD, i.e. lower extreme, was assigned as non-dependent group. Non-dependent group were scored from 0 to 6 and dependent group from 41 to 77 in IAT.

Sensation seeking sub scales in 29 students from dependent group and 29 students from non-dependent group, i.e. upper and lower limits, were compared.

Table 1. Multivariate tests for the effect of internet dependency on the sensation seeking sub scales

Effect	Test	Value	F	Sig.
Internet dependency	Pillai's Trace	.33	6.70	.000
	Wilks' Lambda	.67	6.70	.000
	Hotelling's Trace	.50	6.70	.000
	Roy's Largest Root	.50	6.70	.000

As seen in Table 1, multivariate tests for the effect of internet dependency on the sensation seeking sub scales were significant (Wilks' Lambda= 0.67, $P < 0.001$, $F = 6.70$). Therefore sensation seeking of internet dependents was significantly ($P < 0.001$) different from non-dependents. The average of dependent group in overall sensation seeking (19.27) was higher than the average of non-dependent group (13.39). Thus internet dependents obtained significantly ($P < 0.001$) higher overall sensation seeking scores than non-dependents.

Considering the results of multivariate tests, analysis of variance was separately calculated for each sensation seeking subscales.

Table 2. Analysis of variance for each sensation seeking subscales

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Thrill and adventure seeking	31.72	1	31.72	4.13	.047
Experience seeking	12.59	1	12.59	2.89	.095
Disinhibition	60.07	1	60.07	13.88	.000
Boredom susceptibility	31.72	1	31.72	20.67	.000

As seen in table 2, calculated F for subscales of thrill and adventure seeking, disinhibition and boredom susceptibility was significant. The average of dependent group in subscales of thrill and adventure seeking (7.00), disinhibition (4.55) and boredom susceptibility (4.00) was higher than non-dependent group. Thus significantly higher scores on subscales of thrill and adventure seeking ($P < 0.05$), disinhibition and boredom susceptibility ($P < 0.001$) were found in internet dependents compared with non-dependents.

Five big factors of personality were compared in upper and lower extremes, 29 students from dependent group and 29 students from non-dependent group. Multivariate tests for the effect of internet dependency on five big factors of personality were not significant (Wilks' Lambda= 0.83, $P > 0.05$, $F = 2.27$). Therefore, significant difference in five big factors of personality was not found between internet dependents and non-dependents.

Although Multivariate tests were not significant; each five big factors was also evaluated by analysis of variance to find the most accurate data. Results showed that, only calculated F for Conscientiousness ($F = 4.65$, $df = 1$, $P < 0.05$) was meaningful. The average of Conscientiousness factor in non-dependent group (34.10) was higher than

dependent group (29.35). So Conscientiousness score of Internet dependents were significantly ($P < 0.05$) lower than non-dependents.

4. Conclusions & discussions

This is the first study in Iran which compares the sensation seeking and five big factors of personality between internet dependent and non-dependent users.

Multivariate tests for the effect of internet dependency on the combination of sensation seeking sub scales were revealed that the overall sensation seeking of internet dependents was significantly different from non-dependents. According to averages, internet dependents obtained significantly higher overall sensation seeking scores than non-dependents. While the High overall sensation seeking of internet dependent group is consistent with the results of Lin (2001), Lin and Tsai (2002), Gao et al. (2008) and Guo, Mei, and Zhang (2009), it is opposed to the findings of Lavin et al. (2000) who reported a significantly lower overall sensation seeking score in internet dependents than non-dependents. Furthermore, they suggested that sensation seeking of internet dependents might not be a physical, as measured by Zuckerman's scale, but rather mental or virtual. Inclusion of the subjects from only one institution and generalization of the results to all university students of US is a big disadvantage of that study. Lin (2001) has developed an internet sensation seeking scale. Five factors of this scale (from high to low degree of stimulating: internet thrill and adventure seeking, sensation information retrieval, internet interpersonal adventure, online acquaintance, and internet construction experience seeking) are highly correlated with internet addiction. Lin and Tsai (2002) investigation on Taiwanese high school students showed that internet dependents obtained significantly higher scores on overall sensation seeking than non-dependents. Gao et al. (2008) found that College students with IAD had high sensation seeking and the sensation seeking had certain influence on IAD. In another investigation, Guo, Mei, and Zhang (2009) found significant correlation of IAD and overall sensation seeking scores of college students.

High thrill and adventure seeking in dependent group is consistent with the results of Lin (2001), and contradicts the findings of Lavin et al. (2000). Lin (2001) has reported that the factor of internet thrill and adventure seeking appears as a critical variable in classifying at-risk pathological internet users and not surprisingly highly correlated with the length of overall online usage. Different outcome was found by Lavin et al (2000); their results showed that thrill and adventure seeking score of internet dependents were significantly lower than non-dependents. Sample selection bias might be the reason of their results.

High disinhibition in dependent group is consistent with the results of Lin and Tsai (2002), Gao, et al. (2008), Guo, Mei, and Zhang (2009), and Velezmoro, Lacefield, and Roberti (2010). Lin and Tsai (2002) showed that disinhibition score in internet dependents were significantly higher than internet non-dependents. In other study Gao, et al. (2008) found positive correlation between disinhibition and IAD. The difference of the disinhibition between college Students with gaming and communication addiction disorder and others was significant. Guo, Mei, and Zhang (2009) were also reported significant correlation between IAD and disinhibition scores. Results of Velezmoro, Lacefield, and Roberti (2010) revealed that disinhibition predicts internet dependency for sexual purposes.

High boredom susceptibility of dependent group is consistent with the findings of Chaney and Chang (2005), Shi, et al. (2005), and Velezmoro, Lacefield, and Roberti (2010). Chaney and Chang (2005) found that increased levels of boredom while engaged in excessive online sexual activities facilitate and maintain Internet sexual addiction. SHI, et al. (2005) reported that the score of Boredom Susceptibility was positively correlated with IAD. Velezmoro, Lacefield, and Roberti (2010) revealed that internet dependency for non-sexual purposes could also be predicted by boredom susceptibility.

Low Conscientiousness of dependent group is Consistent with the results of Dell (2001), Landers and Lounsbury (2006), Abdul Karim, Zamzuri, and Nor (2009). Dell (2001) emphasized that, internet, like other technologies, reduces physical movement and relationship with others in the real world and reinforce social sedentary. These symptoms lead to reduced responsibility. Results of Landers and Lounsbury (2006) indicated that total internet usage was negatively related to conscientiousness of undergraduate students. Similar findings from Abdul Karim,

Zamzuri, and Nor (2009) indicated that conscientiousness have negative significant correlation with unethical internet behaviour in university students.

5. Limitations and recommendations

While the students from University of Tehran were only included in the current study, generalization of the results to the entire population might not be acceptable. Because of small number of internet dependents, comparison of dependent and non-dependent groups was done only in upper and lower extremes and it could be influenced the results.

Research findings give notice to the decision makers of community and academicians to develop conditions to fortify emotions and to build up personality of youth for increasing their resistance against the negative effects caused by the Internet. In addition, fulfillment of their normal sensation seeking by providing circumstances of assorted experiences helps them to keep on positive and accepted forms.

Further investigation is suggested to study internet dependency when grouped with related problematic behaviors and content analysis of internet topics which commonly searched by youth to identify susceptible individuals and figuring out possible prevention policies and necessary interventions.

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